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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,807	04/28/2000	WILFRIED MODROW	3245-734PUS	9810

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THOMAS C PONTANI
COHEN PONTANI LIEBERMAN & PAVANE
551 FIFTH AVENUE
SUITE 1210
NEW YORK, NY 10176

EXAMINER	
TRAN, LEN	

ART UNIT	PAPER NUMBER
1725	14

DATE MAILED: 05/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

mk-14

Office Action Summary	Application No. 09/509,807	Applicant(s) MODROW ET AL.	
	Examiner Len Tran	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5 and 8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5 and 8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simsek "Dynamic Simulation of Dual-Line Continuous strip Processing Operations" in view of Chun et al (US 5,509,460).

Simsek discloses a method for determining and controlling the material flow of continuous cast slabs in a continuous casting installation by monitoring and optimizing the temperature on the transport path of the continuous cast slabs between the continuous casting installation and a rolling mill (page 46, 2nd paragraph through page 47, 1st paragraph and 5th

paragraph) comprising the method of determining an amount of heat and a temperature profile of the continuous slab by calculating the convective mixing of the amount of heat contained in the continuous cast slab and the time dependent heat loss from the inhomogenously cooling of the continuous cast slab, wherein the step of calculating comprises using a mathematical physical model, finite element numerical techniques (page 47, 5th paragraph).

Simsek fails to disclose the steps of: a) determining the liquid phase and physical parameters, such as density of the slab at the mold exit, controlling the material flow in the continuous casting installation via a slab monitoring system and using the amount of heat and the temperature profile determined in step b. as an input to the slab-monitoring system. Step c. comprises using a surface temperature of the continuous cast strip determined in step a. as an input to the slab monitoring system. Step c. further comprises automatically controlling the material flow via the slab monitoring system based on the amount of heat and the temperature profile determined in step b. and the surface temperature of the continuous cast slab.

However, Chun et al discloses a method of continuous casting and detecting a temperature of the liquid phase of the continuous slab and physical parameters, density, of the slab (col 2, lines 1-24 and col 5, lines 1-10), and controlling the material flow in the continuous casting installation via a slab-monitoring system (400) of the continuous casting installation (fig. 1). Chun et al shows, wherein in step a. comprises determining a surface temperature of the slab, and step c. comprises using a surface temperature of the continuous cast slab determined in step a. as an input to the slab monitoring system, and then step c. further comprises automatically controlling the material flow via the slab monitoring system (figure 1, col 5, lines 21-50).

Chun et al teaches the following differences for the purpose of detecting spatial profile of the liquid metal/solid metal interface since it is important for optimizing magnetic stirring and soft reduction techniques employed to minimize phase segregation in high alloy steel casting and in addition having slab monitoring system in order to maximize productivity and minimize initial and operating costs.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide Chun et al's method of determining the liquid and physical parameters of the slab and incorporating Chun et al's slab monitoring system as an automatic controller in Simsek in order to maximize productivity and minimize initial and operating costs.

Response to Arguments

3. Applicant's arguments filed 5/06/02 have been fully considered but they are not persuasive.

1. in page 6, applicant argues that Chun et al fail to disclose the step of controlling the material flow of the continuous cast slab from the casting installation to the rolling mills based on the surface temperature of the slab, the amount of heat, the temperature profile as recited in the claim. Examiner respectfully disagrees. Applicant acknowledges Chun et al disclose a method for detecting a solid/liquid interface in a continuous cast slab at the exit of the casting device. Applicant also acknowledges that Chun et al use this information to control the casting

machine, thereby controlling the formation of the strand. Examiner would like to explain that Chun et al's method is to control the formation of the strand to the rolling mills. Although, the rolling mill is not shown in the figures of Chun et al, however, such configuration is conventional in the casting art. The essential feature in applicant's claimed invention is the controlling of the material flow at the casting installation, which is the casting device of Chun et al. Chun et al shows the measurement of the temperature profile of the cast strand, taking in consideration of inherent properties such as surface temperature and heat capacity to control the formation of the strand. The controlled formation of the strand result in the controlling of the material flow of the slab to the rolling mill. Therefore, claims 5 and 8 are still rejected.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (703)605-1175. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3602 for regular communications and (703)305-3602 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Len Tran
Examiner
Art Unit 1725

LT
May 15, 2002

M. ALEXANDRA ELVE
PRIMARY EXAMINER